

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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1. (Previously presented): An electronic communications system for the deaf comprising:

(a) a video apparatus for visually observing the images of facial and hand and finger signing motions of a person and converting the observed signing motions into digital identifiers;

(b) means for translating said digital identifiers of said observed signing motions into words and phrases;

(c) means for outputting said words and phrases generated by the visual observation of said signing motions in a comprehensible form to another person;

(d) a receiver for receiving spoken words and phrases of another person and transmitting them;

(e) means for translating said spoken words and phrases into a visual form which may be observed by a deaf person; and

(f) means for outputting said visual form of said spoken words and phrases on said video apparatus for viewing by the deaf person.

2. (Original): The electronic communications system in accordance with claim 1 wherein said another person is at a remote location.

3. (Original): The electronic communications system in accordance with claim 1 wherein said video apparatus includes a video camera and image capture and processing hardware and software.

4. (Original): The electronic communications system in accordance with claim 1 wherein said translating means is located at a central station with which said video apparatus and said receiver and outputting means are in communication.

C' 5. (Original): The electronic communications system in accordance with claim 1 wherein said translating means also includes artificial intelligence for interpreting and converting the translated signing motions into words and phrases and into coherent sentences.

6. (Original): The electronic communications system in accordance with claim 5 wherein said outputting means converts said coherent sentences into synthetic speech.

7. (Original): The electronic communications system in accordance with claim 1 wherein said outputting means converts said spoken words and phrases into written form.

8. (Original): The electronic communications system in accordance with claim 1 wherein said video apparatus includes a display screen.

9. (Original): The electronic communications system in accordance with claim 8 wherein said video apparatus provides an output of said spoken words and phrases as signing motions on said display screen for viewing by the deaf person.

10. (Original): The electronic communications system in accordance with claim 1 wherein said video apparatus includes a display screen to provide an output of said spoken words and phrases as signing motions on said display screen for viewing by the deaf person, and wherein said video apparatus includes a microphone and speaker whereby a deaf person may communicate with another person in the immediate vicinity.

11. (Original): The electronic communications system in accordance with claim 10 wherein said translating means is located at a central station with which said video apparatus and said receiver and outputting means are in communication.

12. (Previously presented): In a method for electronic communication for the deaf comprising:

(a) visually observing the images of facial and hand and finger signing motions of a person and converting the observed signing motions into digital identifiers;

(b) translating said digital identifiers of said observed signing motions into words and phrases;

(c) outputting said words and phrases in a comprehensible form to another person;

(d) receiving speech from said another person;

(e) translating said speech of said another person into signing motions; and

(f) displaying said signing motions representing said speech to a deaf person.

13. (Original): The electronics communications method in accordance with claim 12 wherein said another person is at a remote location.

14. (Original): The electronic communication method in accordance with claim 13 wherein said step of outputting at a remote location is effected by transmission of said translated words and phrases to a communications device receiver at said remote location.

15. (Original): The electronic communication method in accordance with claim 12 wherein said step of observing and converting the signing motions is effected by a video camera.

16. (Original): The electronic communication method in accordance with claim 12 including the step of transmitting said digital identifiers of said motions and said speech electronically to a central station where said translating steps are performed.

17. (Original): The electronic communication method in accordance with claim 12 wherein said outputting step provides such words and phrases as synthetic speech.

18. (Original): The electronic communication method in accordance with claim 12 wherein said outputting step provides said words and phrases in written form to said another person.

Cl 19. (Original): The electronic communication method in accordance with claim 12 wherein said displaying step provides said words and phrases in written form.

20. (Original): The electronic communication method in accordance with claim 12 wherein said translating step utilizes artificial intelligence.

21. (Original): The electronic communication method and software in accordance with claim 20 wherein said intelligence is developed with the use of multiple neural networks automatically created and assigned by gesture type.

22. (Original): The electronic communication method in accordance with claim 12 wherein said another person and said displaying step are at the same location as said deaf person and wherein said visually observing and converting step utilizes a video apparatus.

23. (Original): The electronic communication method in accordance with claim 22 wherein said receiver and outputting steps are conducted by components of an installation including said video apparatus.

24. (Original): The electronic communication method in accordance with claim 22 wherein said translating steps are conducted at a remote center.

25. (Original): The electronic communication method in accordance with claim 12 wherein said translating steps are conducted at a remote center.

26. (Previously presented): An electronic communication system for the deaf comprising:

(a) a video apparatus for visually observing the images of facial and hand and finger signing motions of a person and converting the observed signing motions into digital identifiers;

(b) means for translating said digital identifiers of said observed signing motions into words and phrases;

C1 (c) means for outputting said words and phrases generated by the visual observations of said signing motions in a comprehensible form to another person;

(d) a receiver for receiving spoken words and phrases of another person and transmitting them;

(e) means for translating said spoken words and phrases into signing motions which may be observed by a deaf person; and

(f) means for outputting said signing motions on said video apparatus for viewing by the deaf person, said translating means being located at a central station with which said video apparatus and receiver are in communication.

27. (Original): An electronic communications system for the deaf in accordance with claim 26 wherein said another person is at a remote location.

28. (Original): An electronic communications system for the deaf in accordance with claim 26 wherein said video apparatus includes a video camera and image capture and processing hardware and software.

29. (Original): An electronic communications system for the deaf in accordance with claim 26 wherein said translating means also includes artificial intelligence for interpreting and converting the translated motions into words and phrases into coherent sentences.

30. (Original): An electronic communications system for the deaf in accordance with claim 28 wherein said outputting means converts said coherent sentences into synthetic speech.

31. (Original): An electronic communications system for the deaf in accordance with claim 26 wherein said video apparatus includes a display screen.

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32. (Original): An electronic communications system for the deaf in accordance with claim 26 wherein said video apparatus includes a display screen to provide an output of said spoken words and phrases as signing motions on said display screen for viewing by the deaf person, and wherein said video apparatus includes a microphone and speaker whereby a deaf person may communicate with another person in the immediate vicinity.

33. (Currently amended): An electronic communications systems for the hearing impaired comprising:

a receiver for receiving spoken words and phrases;

means for translating said spoken words and phrases into a visual form which may be observed by a hearing impaired person;

said translating means including means for transforming said spoken words into equivalent signing content and then into textual material;

means for outputting said textual material for display on a device utilized by said hearing impaired person;

said device utilized by said hearing impaired person including means for receiving words and phrases from the hearing impaired person;

said transforming means converting said words and phrases from the hearing impaired person into a form which may be presented to a hearing person; and

means for outputting said ~~translated~~ converted words and phrases from said hearing impaired person.

34. (Previously presented): An electronic communications system according to claim 33, wherein said translating means are located in a station remote from said hearing impaired person and said hearing person.

C1 35. (Previously presented): An electronic communications system according to claim 33, wherein said means for receiving words and phrases from said hearing impaired person comprises a video camera for capturing signing motions generated by said hearing impaired person.

36. (Previously presented): An electronic communications system according to claim 35, further comprising means for converting said captured signing motions into a plurality of identifiers and means for transmitting said plurality of identifiers to said translating means.

37. (Previously presented): An electronic communications system according to claim 36, wherein said transmitting means comprises at least one telephone line.

38. (Previously presented): An electronic communications system according to claim 36, wherein said translating means includes means for correlating said identifiers with a vocabulary and grammar database.

39. (Previously presented): An electronic communications system according to claim 33, wherein said translating means includes artificial intelligence means for providing an analysis of the emotional content of said spoken words and wherein said system further comprises means for separately conveying said emotional content to said device utilized by said hearing impaired person.

40. (Previously presented): An electronic communications system according to claim 33, wherein said device has means for converting textual material received from said translating means into reduced identifying pointers and for converting said reduced identifying pointers into animated images which portray in sign language the content of the spoken words and phrases.

Cl 41. (Previously presented): An electronic communication system according to claim 33, wherein said device utilized by said hearing impaired person is located in a kiosk.

42. (Previously presented): An electronic communication system according to claim 33, wherein said device utilized by said hearing impaired person comprises a portable transmitter/receiver.

43. (Previously presented): An electronic communication system according to claim 33, wherein said device utilized by said hearing impaired person comprises a personal computer which includes a monitor.

44. (Previously presented): An electronic communication system according to claim 43, wherein said personal computer further includes a video camera for capturing facial, hand, and finger signing motions generated by said hearing impaired person.

45. (Previously presented): An electronic communication system according to claim 33, wherein said output means comprises means for transmitting said text via telephone lines and said device used by said hearing impaired person includes means for converting said transmitted text to animated images.

46. (Previously presented): An electronic communication system for the hearing impaired comprising:

a receiver for receiving spoken words and phrases;

means for translating said spoken words and phrases into a visual form which may be observed by a hearing impaired person;

said translating means including means for transforming said spoken words into equivalent signing content and then into textual material;

means for outputting said textual material for display on a device utilized by said hearing impaired person;

said device utilized by said hearing impaired person including means for receiving words and phrases from the hearing impaired person;

said system including a video apparatus for visually observing any images of facial and hand and finger signing motions of the hearing impaired person and converting any observed signing motions into digital identifiers;

said transforming means converting said words and phrases from the hearing impaired person into a form which may be presented to a hearing person;

said transforming means including means for translating said digital identifiers of said observed signing motions into words and phrases;

CI means for outputting said translated words and phrases from said hearing impaired person; and

said outputting means including means for outputting said words and phrases generated by the visual observation of said signing motions in a comprehensible form to another person.
